

Balancing Equations and Types of Chemical Reactions

Balancing equations:

If 1 Cl looks like this: \bigcirc draw the molecules symbolized here:



How many atoms are in the following compounds

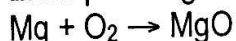
- | | | | |
|------------------------------|---------------|--------------|--------------|
| a) NaOH | $\text{Na} =$ | $\text{O} =$ | $\text{H} =$ |
| b) $\text{Ca}(\text{OH})_2$ | $\text{Ca} =$ | $\text{O} =$ | $\text{H} =$ |
| c) $3\text{Ca}(\text{OH})_2$ | $\text{Ca} =$ | $\text{O} =$ | $\text{H} =$ |

The _____ states that matter can neither be _____ or _____.

Atoms are neither created or destroyed, only _____ in a chemical reaction

The number of a particular atom is _____ on both sides of a chemical equation

Example: Magnesium + Oxygen

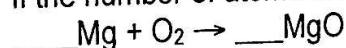


How many atoms are on each side:

Left: $\text{Mg} =$ $\text{O} =$

Right: $\text{Mg} =$ $\text{O} =$

If the number of atoms is not the same on both sides, we must _____ the equation.



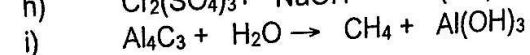
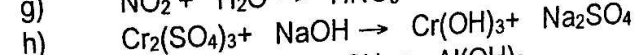
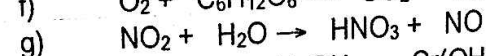
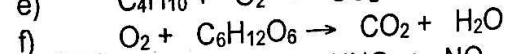
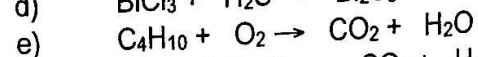
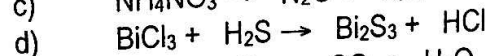
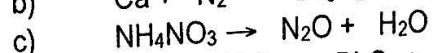
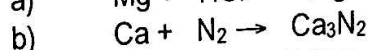
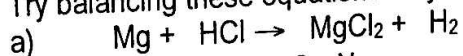
Now we have a balanced equation! The matter on the left is equal to the matter on the right.

Left: $\text{Mg} =$ $\text{O} =$

Right: $\text{Mg} =$ $\text{O} =$

Cleverly, the matter on the left hand side of the reaction is called the _____ and the right hand side of the equation is called the _____.

Try balancing these equations on your own:



Name _____
Period _____

Types of reactions:

A _____ is when two or more simple compounds combine to form a more complicated one.

The general form for this type of equation is _____ + _____ \rightarrow _____

EXAMPLE:

A _____ is the opposite of a synthesis reaction - a complex molecule breaks down to make simpler ones.

The general form for this type of equation is _____ \rightarrow _____ + _____

EXAMPLE:

A _____ is when one element trades places with another element in a compound.

The general form for this type of equation is _____ + _____ \rightarrow _____ + _____

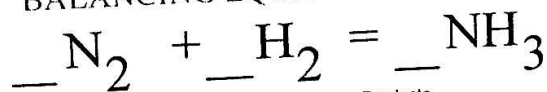
EXAMPLE:

A _____ is when the anions and cations of two different molecules switch places, forming two entirely different compounds.

The general form for this type of equation is _____ + _____ \rightarrow _____ + _____

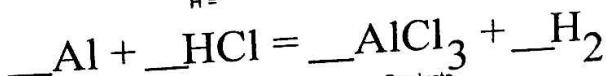
EXAMPLE:

BALANCING EQUATIONS PRACTICE!



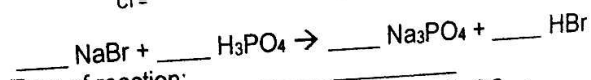
Reactants
N =
H =

Products
N =
H =

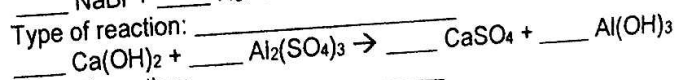


Reactants
Al =
H =
Cl =

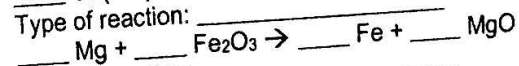
Products
Al =
H =
Cl =



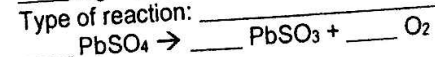
Type of reaction: _____



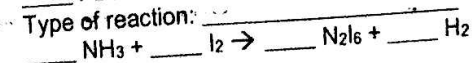
Type of reaction: _____



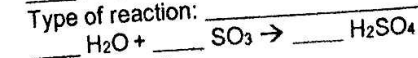
Type of reaction: _____



Type of reaction: _____



Type of reaction: _____



Type of reaction: _____